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a computer controlled chemical well retriever for programmable selection and retrieval of said multi-well plates comprising selected ones of said chemical wells;

an automated, bi-directional, and parallel transport path coupled to said chemical library for receiving chemicals from and returning chemicals to said chemical library,

wherein said transport path couples to at least one plate stacking storage buffer; and

a plurality of asynchronously operable automated liquid handling devices operatively coupled to said transport path, whereby said high throughput chemical screener is configured to process at least approximately 25,000 chemical samples in a 24 hour period.

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23. (ONCE AMENDED) The chemical storage apparatus of Claim 22, comprising at least approximately 25,000 addressable wells.

REMARKS

Applicants have amended claims 1 and 23. The specific changes to the specification and the amended claims are shown on a separate set of pages attached hereto and entitled VERSION WITH MARKINGS TO SHOW CHANGES MADE, which follows the signature page of this Amendment. On this set of pages, the insertions are underlined while the [deletions are in brackets and bolded]. Applicants respond below to rejections and objections raised by the Examiner in the Office Action of April 2, 2001.

I. Rejections under 35 U.S.C. § 112, First Paragraph

Claims 1, 6, 22-24 stand rejected under 35 U.S.C. § 112, first paragraph, for allegedly containing subject matter not described in the specification.

Claim 1:

The Examiner alleges that the specification does not provide support for the retrieval of wells using the computer controlled chemical well retriever. Applicants respectfully traverse. Support for the retrieval of the wells using transport pathway is found on page 51, lines 14-15, where the specification indicates that the workplates are returned to the module. Since the plates

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can only be transported through the transport pathway, then the return is also necessarily through the transport pathway. Additionally, Figure 1, 2 and 11 clearly show that the workplates are transported to and from (as indicated by the direction of the arrows) the storage module (Storage and Retrieval Module) via the transport pathway (Reagent Transporter). Moreover, the specification at page 24, lines 10-28, explains that the reagent or sample transporter may be a bi-directional parallel pathway. Accordingly, Applicant submits that return of chemicals the chemical library via a parallel transport path is supported by the specification as filed.

Claims 6 and 22:

The Examiner alleges that “the integral plate buffer” in Claim 6 and a “chemical storage buffer” in Claim 22 are not adequately supported by the specification. Applicants respectfully traverse and point out that the limitations which the Examiner has objected to were contained in the claims as filed in the original specification. Hence, these limitations are adequately supported in the original claims themselves. Applicants also note that support is found on page 14, lines 9-12 of the specification, where the device is said to comprise a movable buffer.

Claim 23:

The Examiner also alleges that the specification provides no support for “3000 storage locations.” Applicants have amended the claim, which now recites “20,00 storage locations.” Support for the amendment is found throughout the specification, for example, at page 49, lines 11-14.

Claim 24:

The Examiner further alleges that the limitation “each containing a different chemical” and “100,000 multiwell plate storage locations” are not supported by the specification. Applicants respectfully traverse. First of all, the claim recites “100,000 addressable chemical storage locations” not “100,000 multiwell plate storage locations.” Hence, each well of a multiwell plate may be considered an addressable storage location. Throughout the specification, as an example at page 13, line 29-30, the wells of a multiwell plate are described as being “addressable.” Moreover, support for at least 100,000 addressable locations is found on page 8, lines 10-11 of the specification.

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In view of the above, Applicants respectfully request that the 35 U.S.C. § 112, first paragraph, rejections be withdrawn.

II. Rejections under 35 U.S.C. § 112, Second Paragraph

Claims 1-3, and 24 stand rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. In Claim 1, the Examiner has alleged that the use of the term "can" renders the claim indefinite. Applicant has amended and rephrased the claim to replace the term "can process" with a more positive recitation of the phrase, "is configured to process."

In Claim 24, the Examiner alleges that the limitation "each containing a different chemical" is confusing. Applicant has amended the claim to make it clear that it is the at least 100,000 addressable chemical storage locations that each contain a different chemical.

In view of the above, Applicants respectfully request that the 35 U.S.C. § 112, second paragraph, rejections be withdrawn.

III. Rejections under 35 U.S.C. § 103

Claims 8,10-12, and 20-24 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over MacIndoe in view of Ishizaki. Claims 1-3, 20, and 22-24 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Ashihara in view of Shuttleworth "Flat Panel Display News" February 1996.

Applicants respectfully traverse. The teachings of the primary references and the subject matter of the claimed invention in the above-captioned application are sufficiently different such that the primary references by themselves do not teach or suggest all the elements of the claimed invention. In addition, the secondary references do not teach or suggest the missing elements so as to render the claims obvious.

The claims of the above-captioned patent application contain a limitation by which the chemical samples are programmably selected, i.e., the device of these inventions can be programmed to obtain a selected set of chemical wells and then conduct a selected set of test on the selected set of chemicals. In addition, the selected set of chemical wells of the present inventions can be processed in a parallel fashion.

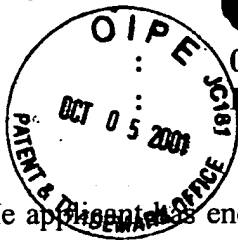
Contrary to the device of the above-captioned application, Ashihara et al. and MacIndoe describe devices in which the wells containing the test samples are manually placed in the device.

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The wells are processed in a serial fashion, i.e., the wells in the front are processed prior to the wells in the back. The order of the wells to be processed cannot change. The CPU of MacIndoe controls which assay modules are used to test the sample in the sample wells; the CPU does not control which sample wells are to be tested. See, for example, MacIndoe et al., Column 5, line 57, to Column 6, line 10. Similarly, the CPU of Ashihara et al. controls the operation of the control portion 22, which contains programs for different enzyme immunological assays. See, for example, Ashihara et al., Column 7, lines 4-18. Neither reference, either alone or in combination with any of the cited secondary references, teaches a programmable screening system by which the test samples are programmably selected.

In view of the above, Applicants respectfully request that the Examiner reconsider and withdraw the rejections.

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CONCLUSION

The applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims pursuant to statutory sections 112, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. In light of these amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested.

Any claim amendments which are not specifically discussed in the above remarks are not made for patentability purposes, and it is respectfully submitted that the claims satisfy the statutory requirements for patentability without the entry of such amendments. These amendments have only been made to increase claim readability, to improve grammar, or to reduce the time and effort required of those in the art to clearly understand the scope of the claim language.

If the Examiner has any questions which may be answered by telephone, he is invited to call the undersigned directly.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 10/1/01

By: [Signature]

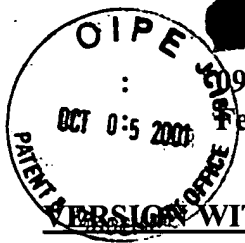
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VERSION WITH MARKINGS TO SHOW CHANGES MADE.

1. (TWICE AMENDED) A high throughput chemical screener comprising:
a chemical library comprising storage locations for at least approximately 3000 multi-well plates, each of which comprises at least approximately 96 individual chemical wells;
a computer controlled chemical well retriever for programmable selection and retrieval of said multi-well plates comprising selected ones of said chemical wells;
an automated, bi-directional, and parallel transport path coupled to said chemical library for receiving chemicals from and returning chemicals to said chemical library,
wherein said transport path couples to at least one plate stacking storage buffer; and
a plurality of asynchronously operable automated liquid handling devices operatively coupled to said transport path, whereby said high throughput chemical screener [**can process**] is configured to process at least approximately 25,000 chemical samples in a 24 hour period.

23. (ONCE AMENDED) The chemical storage apparatus of Claim 22, comprising at least approximately [**3000**] 2000 storage locations for multi-well plates.

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